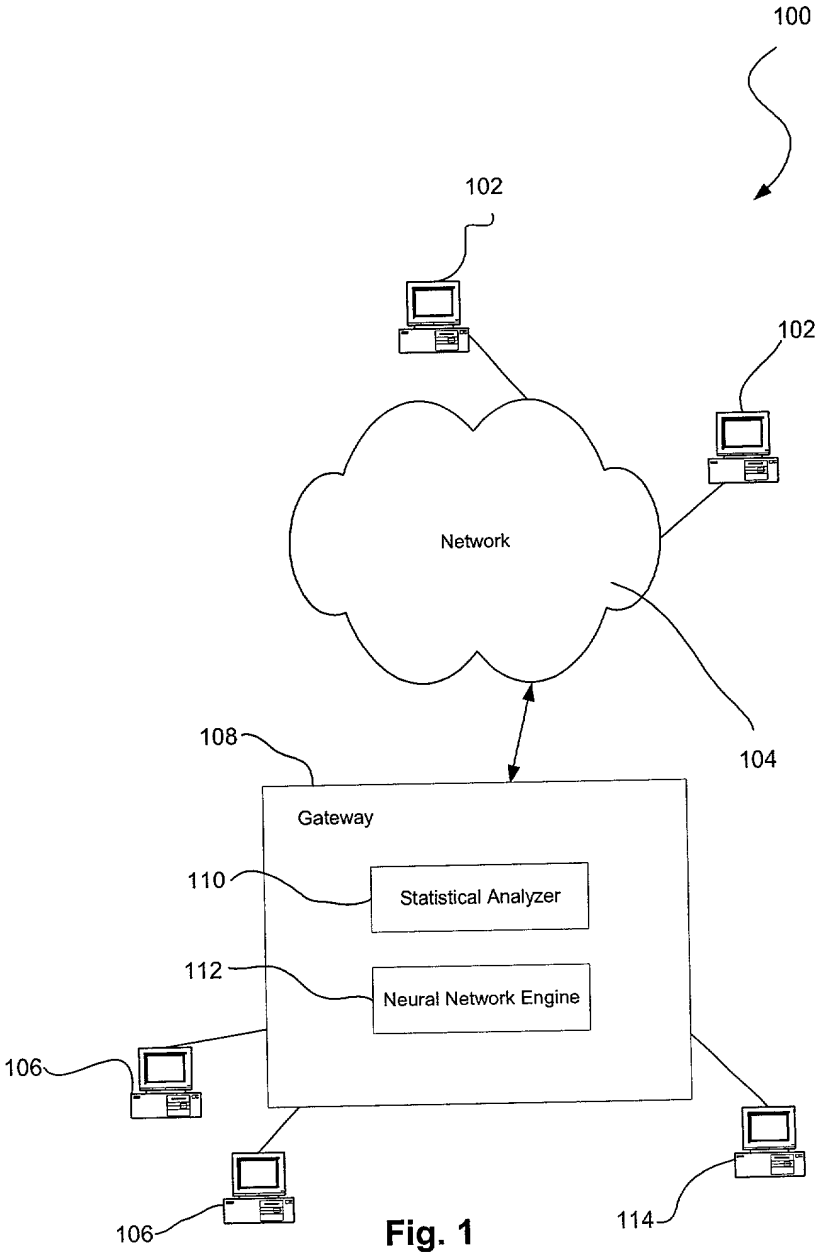
100
102
102
Network
104
108
Gateway
110
Statistical Analyzer
112
Neural Network Engine
106
106
114

Fig. 1

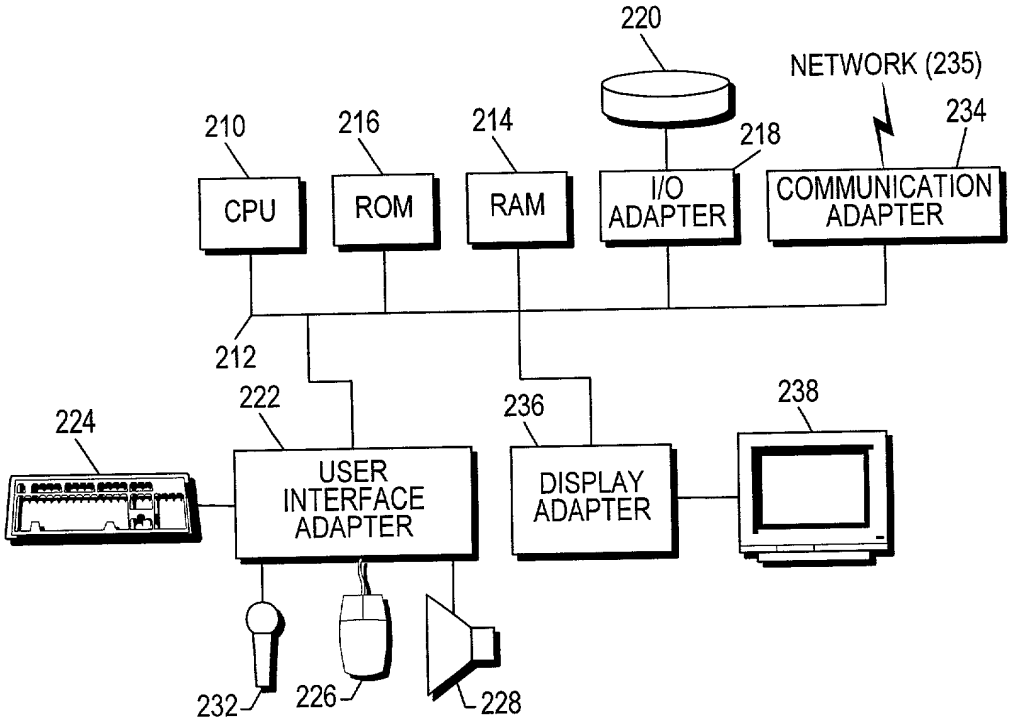
220
NETWORK (235)
210
216
214
218
234
CPU
ROM
RAM
I/O ADAPTER
COMMUNICATION ADAPTER
212
222
236
238
224
USER INTERFACE ADAPTER
DISPLAY ADAPTER
232
226
228

Fig. 2

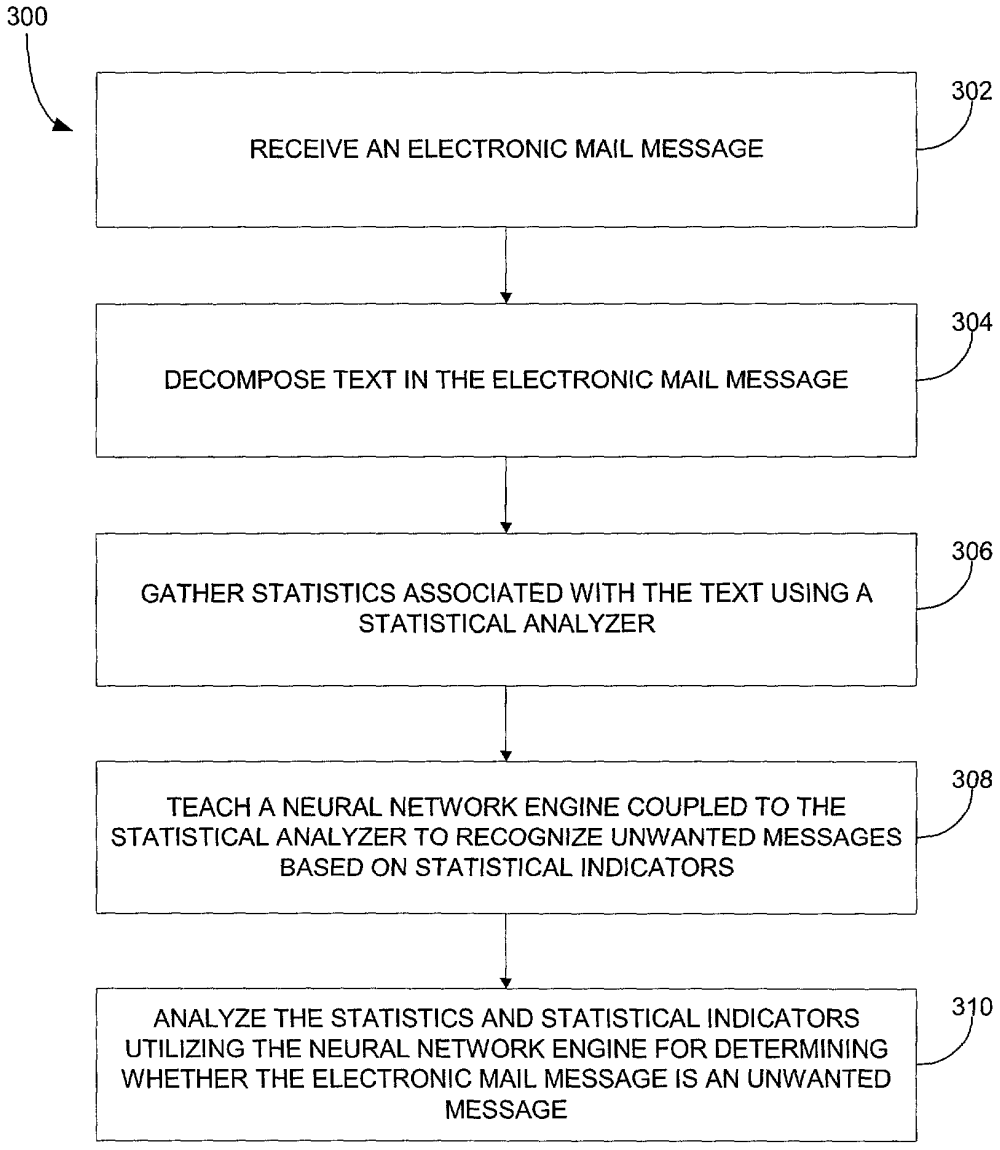
300
RECEIVE AN ELECTRONIC MAIL MESSAGE
302
DECOMPOSE TEXT IN THE ELECTRONIC MAIL MESSAGE
304
GATHER STATISTICS ASSOCIATED WITH THE TEXT USING A STATISTICAL ANALYZER
306
TEACH A NEURAL NETWORK ENGINE COUPLED TO THE STATISTICAL ANALYZER TO RECOGNIZE UNWANTED MESSAGES BASED ON STATISTICAL INDICATORS
308
ANALYZE THE STATISTICS AND STATISTICAL INDICATORS UTILIZING THE NEURAL NETWORK ENGINE FOR DETERMINING WHETHER THE ELECTRONIC MAIL MESSAGE IS AN UNWANTED MESSAGE
310

Fig. 3

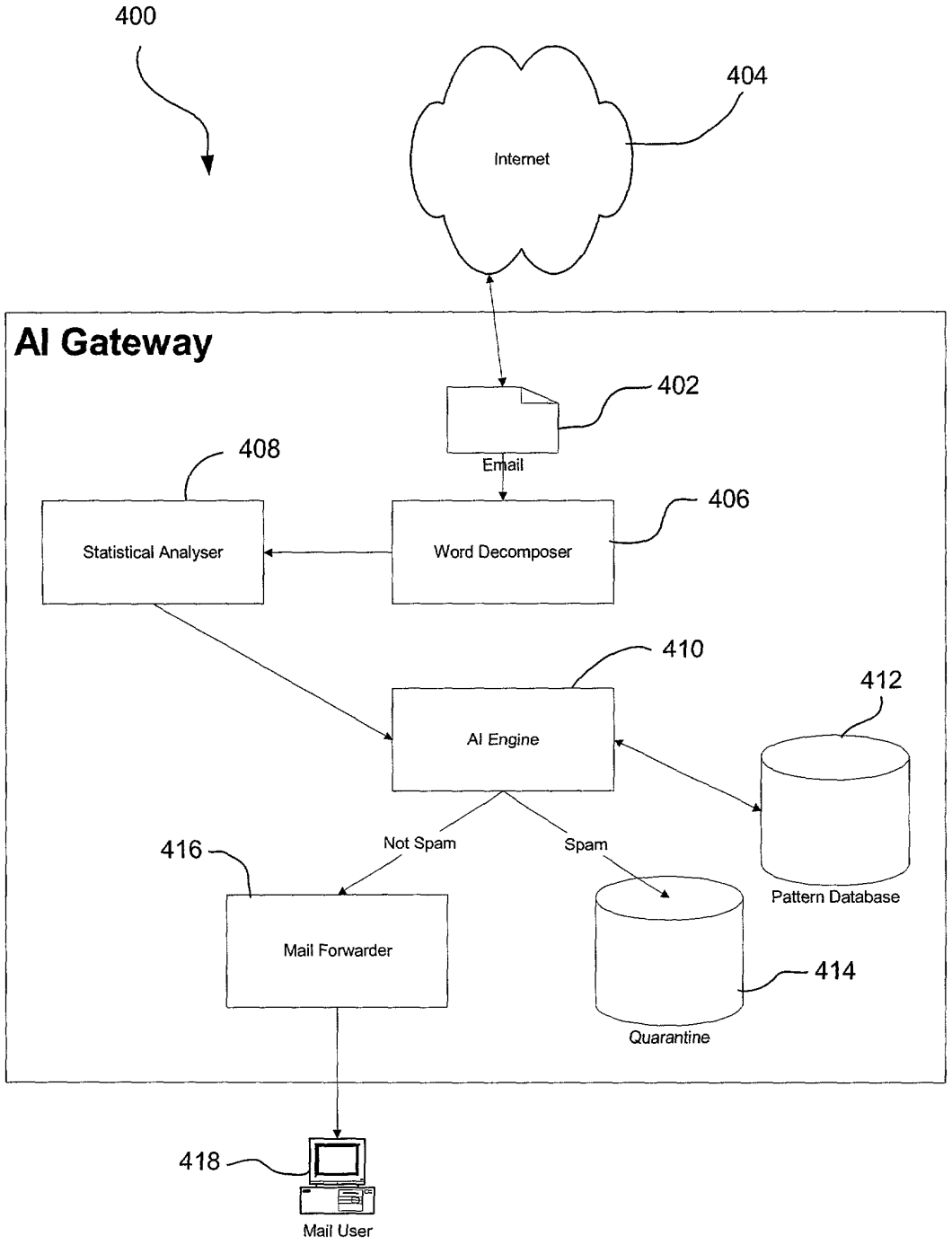
400
404
Internet
AI Gateway
402
Email
408
406
Statistical Analyser
Word Decomposer
410
412
AI Engine
Not Spam
Spam
Pattern Database
416
Mail Forwarder
414
Quarantine
418
Mail User

Fig. 4

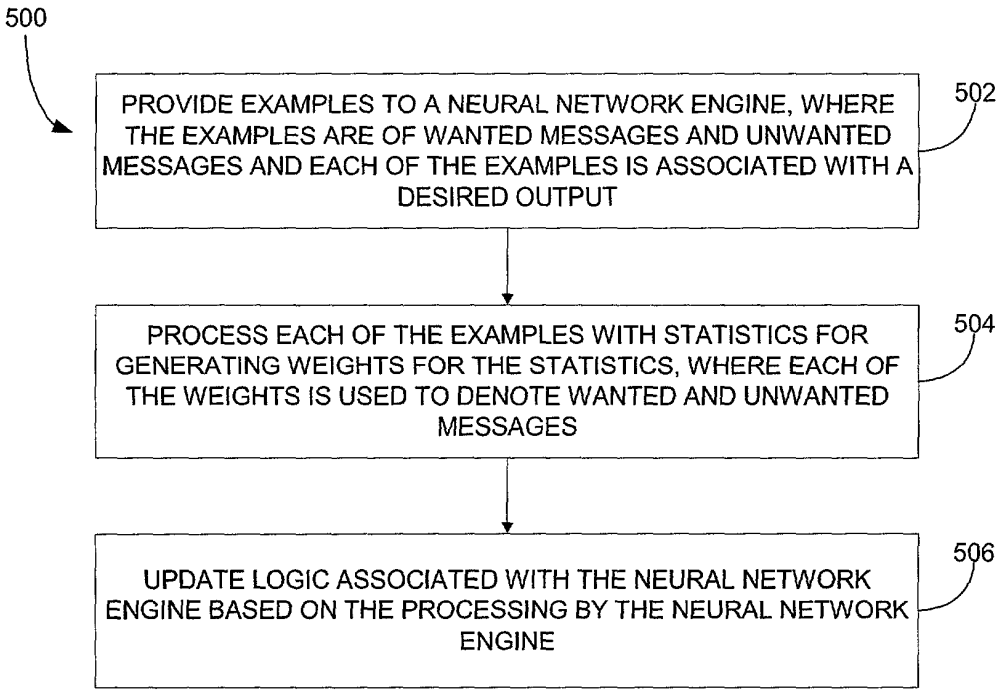
500
PROVIDE EXAMPLES TO A NEURAL NETWORK ENGINE, WHERE THE EXAMPLES ARE OF WANTED MESSAGES AND UNWANTED MESSAGES AND EACH OF THE EXAMPLES IS ASSOCIATED WITH A DESIRED OUTPUT
502
PROCESS EACH OF THE EXAMPLES WITH STATISTICS FOR GENERATING WEIGHTS FOR THE STATISTICS, WHERE EACH OF THE WEIGHTS IS USED TO DENOTE WANTED AND UNWANTED MESSAGES
504
UPDATE LOGIC ASSOCIATED WITH THE NEURAL NETWORK ENGINE BASED ON THE PROCESSING BY THE NEURAL NETWORK ENGINE
506

Fig. 5

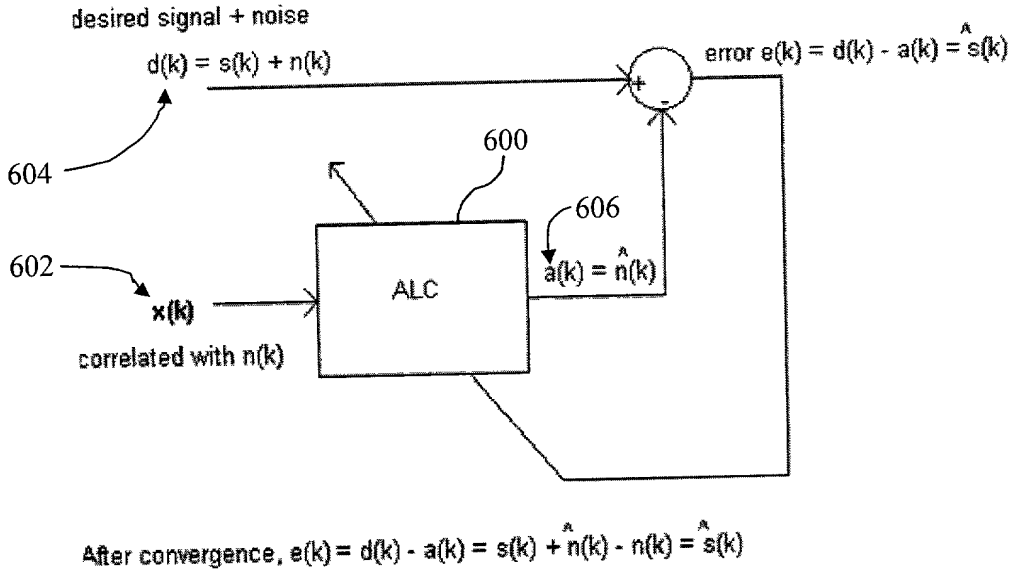

Fig. 6

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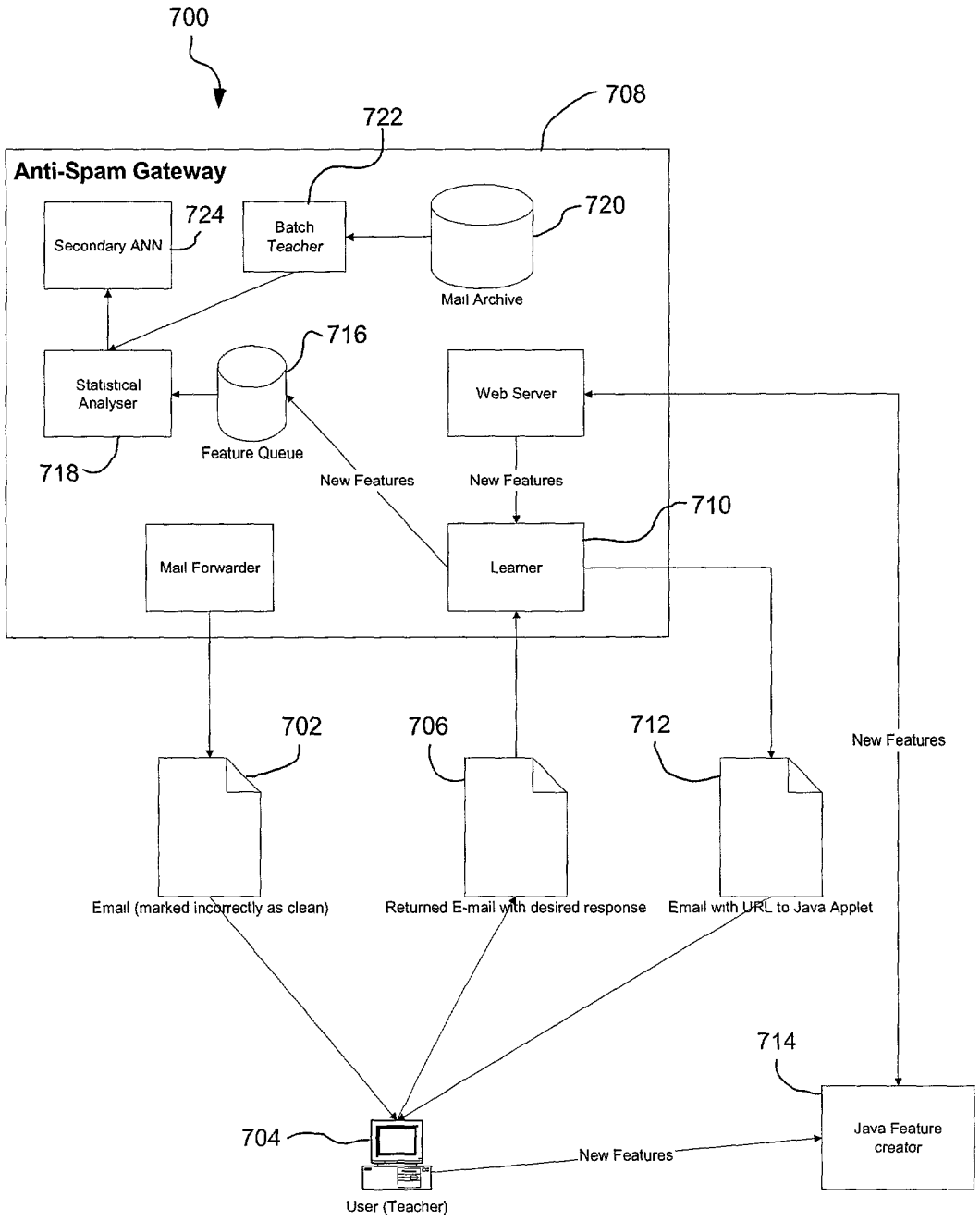
700
708
722
Anti-Spam Gateway
Secondary ANN
724
Batch Teacher
720
Mail Archive
716
Statistical Analyser
Feature Queue
Web Server
718
New Features
New Features
710
Mail Forwarder
Learner
New Features
702
706
712
Email (marked incorrectly as clean)
Returned E-mail with desired response
Email with URL to Java Applet
714
704
New Features
Java Feature creator
User (Teacher)

Fig. 7